WHAT IS CLAIMED IS:

1. A method of manufacturing a thin-film magnetic head comprising: a medium facing surface that faces toward a recording medium; a magnetoresistive element; a first shield layer and a second shield layer for shielding the magnetoresistive element, the shield layers having portions located on a side of the medium facing surface and opposed to each other, the magnetoresistive element being placed between these portions of the shield layers; a first shield gap film, provided between the magnetoresistive element and the first shield layer, for insulating the magnetoresistive element and the first shield layer from each other; and a second shield gap film, provided between the magnetoresistive element and the second shield layer, for insulating the magnetoresistive element and the second shield layer from each other; the method including the steps of:

forming the first shield layer;

forming the first shield gap film on the first shield layer;

forming the magnetoresistive element on the first shield gap film;

forming the second shield gap film on the magnetoresistive element; and

forming the second shield layer on the second shield gap film; wherein

at least one of the first and second shield gap films is formed by stacking a plurality of insulating films formed by chemical vapor deposition.

2. The method according to claim 1, wherein the insulating films formed by the chemical vapor deposition are alumina films.

3. The method according to claim 1, wherein the chemical vapor deposition is low pressure chemical vapor deposition.

4. The method according to claim 1, wherein the chemical vapor deposition is plasma chemical vapor deposition or atmospheric pressure chemical vapor deposition.

5. The method according to claim 1, wherein the insulating films formed by the chemical vapor deposition are formed through the use of a plurality of chambers.

6. The method according to claim 1, wherein the insulating films formed by the chemical vapor deposition are formed through intermittently injecting a material for making the films.

7. The method according to claim 6, wherein the insulating films formed by the chemical vapor deposition are alumina films formed through intermittently injecting H_2O, N_2O or H_2O_2 which is the material for making the films and $Al(CH_3)_3$ or $AlCl_3$ which is the material for making the films in an alternate manner.

8. The method according to claim 1, wherein the insulating films formed by the chemical vapor deposition are formed at a temperature in a range of 100 to 350 ℃.

9. A method of manufacturing a thin-film magnetic head comprising: a medium facing surface that faces toward a recording medium; a first magnetic layer including a pole portion and a second magnetic layer including a pole portion, the first and second magnetic layers being magnetically coupled to each other, the pole portions being opposed to each other and placed in regions of the magnetic layers on a side of the medium facing surface, each of the magnetic layers including at least one layer; a gap layer provided between the pole portions of the first and second magnetic layers; and a thin-film coil at least a part of which is placed between the first and second magnetic layers, the at least part of the coil being insulated from the first and second magnetic layers; the method including the steps of:

forming the first magnetic layer;

forming the gap layer on the first magnetic layer;

forming the second magnetic layer on the gap layer; and

forming the thin-film coil; wherein

the gap layer is formed by stacking a plurality of insulating films formed by chemical vapor deposition.

10. The method according to claim 9, wherein the insulating films formed by the chemical vapor deposition are alumina films.

11. The method according to claim 9, wherein the chemical vapor deposition is low pressure chemical vapor deposition.

12. The method according to claim 9, wherein the chemical vapor deposition is plasma chemical vapor deposition or atmospheric pressure chemical vapor deposition.

13. The method according to claim 9, wherein the insulating films formed by the chemical vapor deposition are formed through the use of a plurality of chambers.

14. The method according to claim 9, wherein the insulating films formed by the chemical vapor deposition are formed through intermittently injecting a material for making the films.

15. The method according to claim 14, wherein the insulating films formed by the chemical vapor deposition are alumina films formed through intermittently injecting H_2O, N_2O or H_2O_2 which is the material for making the films and $Al(CH_3)_3$ or $AlCl_3$ which is the material for making the films in an alternate manner.

16. The method according to claim 9, wherein the insulating films formed by the chemical vapor deposition are formed at a temperature in a range of 100 to 350 °C.

17. A method of manufacturing a thin-film magnetic head comprising:

a medium facing surface that faces toward a recording medium;

a reproducing head incorporating: a magnetoresistive element; a first shield layer and a second shield layer for shielding the magnetoresistive element, the shield layers having portions located on a side of the medium facing surface and opposed to each other, the magnetoresistive element being placed between these portions of the shield layers; a first shield gap film, provided between the magnetoresistive element and the first shield layer, for insulating the magnetoresistive element and the first shield layer from each other; and a second shield gap film, provided between the magnetoresistive element and the second shield layer, for insulating the magnetoresistive element and the second shield layer from each other;

a recording head incorporating: a first magnetic layer including a pole portion and a second magnetic layer including a pole portion, the first and second magnetic layers being magnetically coupled to each other, the pole portions being opposed to each other and placed in regions of the magnetic layers on a side of the medium facing surface, each of the magnetic layers including at least one layer; a gap layer provided between the pole portions of the first and second magnetic layers; and a thin-film coil at least a part of which is placed between the first and second magnetic layers, the at least part of the coil being insulated from the first and second magnetic layers; and

an isolation film for magnetically isolating the reproducing head and the recording head from each other; the method including the steps of:

forming the reproducing head;

forming the recording head; and

forming the isolation film; wherein

the isolation film is formed by stacking a plurality of insulating films formed by chemical vapor deposition.

18. The method according to claim 17, wherein the insulating films formed by the chemical vapor deposition are alumina films.

19. The method according to claim 17, wherein the chemical vapor deposition is low pressure chemical vapor deposition.

20. The method according to claim 17, wherein the chemical vapor deposition is plasma chemical vapor deposition or atmospheric pressure chemical vapor deposition.

21. The method according to claim 17, wherein the insulating films formed by the chemical vapor deposition are formed through the use of a plurality of chambers.

22. The method according to claim 17, wherein the insulating films formed by the chemical vapor deposition are formed through intermittently injecting a material for making the films.

23. The method according to claim 22, wherein the insulating films formed by the chemical vapor deposition are alumina films formed through intermittently injecting H_2O, N_2O or H_2O_2 which is the material for making the films and $Al(CH_3)_3$ or $AlCl_3$ which is the material for making the films in an alternate manner.

24. The method according to claim 23, wherein the insulating films formed by the chemical vapor deposition are formed at a temperature in a range of 100 to 350 °C.

25. A method of manufacturing a thin-film magnetic head comprising: a medium facing surface that faces toward a recording medium; a first magnetic layer including

a pole portion and a second magnetic layer including a pole portion, the first and second magnetic layers being magnetically coupled to each other, the pole portions being opposed to each other and placed in regions of the magnetic layers on a side of the medium facing surface, each of the magnetic layers including at least one layer; a gap layer provided between the pole portions of the first and second magnetic layers; a thin-film coil at least a part of which is placed between the first and second magnetic layers, the at least part of the coil being insulated from the first and second magnetic layers; and a coil insulating layer for insulating neighboring ones of turns of the coil from each other; the method including the steps of:

forming the first magnetic layer;
forming the gap layer on the first magnetic layer;
forming the second magnetic layer on the gap layer;
forming the thin-film coil; and
forming the coil insulating layer; wherein

the coil insulating layer is formed by stacking a plurality of insulating films formed by chemical vapor deposition.

26. The method according to claim 25, wherein the insulating films formed by the chemical vapor deposition are alumina films.

27. The method according to claim 25, wherein the chemical vapor deposition is low pressure chemical vapor deposition.

28. The method according to claim 25, wherein the chemical vapor deposition is plasma chemical vapor deposition or atmospheric pressure chemical vapor deposition.

29. The method according to claim 25, wherein the insulating films formed by the chemical vapor deposition are formed through the use of a plurality of chambers.

30. The method according to claim 25, wherein the insulating films formed by the chemical vapor deposition are formed through intermittently injecting a material for making the films.

31. The method according to claim 30, wherein the insulating films formed by the chemical vapor deposition are alumina films formed through intermittently injecting H_2O, N_2O or H_2O_2 which is the material for making the films and $Al(CH_3)_3$ or $AlCl_3$ which is the material for making the films in an alternate manner.

32. The method according to claim 25, wherein the insulating films formed by the chemical vapor deposition are formed at a temperature in a range of 100 to 350 °C.